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RECORD OF ORAL HEARING
UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte HIROSHI YAMAGUCHI

Appeal 2007-0498
Application 09/656,131
Technology Center 2600

Oral Hearing Held: October 25, 2007

Before JAMES D. THOMAS, JOSEPH F. RUGGIERO, and
JOSEPH L. DIXON, *Administrative Patent Judges*

ON BEHALF OF THE APPELLANT:

DENNIS MALLOY, ESQUIRE
Fish & Richardson, PC
Post Office Box 1022
Minneapolis, MN 55440-1022

PROCEEDINGS

MS. WI: Good morning.

JUDGE THOMAS: Good morning.

MS. WI: My name is Christine Wi and I represent the Appellant,
Hiroshi Yamaguchi, regarding Appeal Docket No. 2007-0498. The

1Appellant's invention is related to an image processing device, image
2processing method and recording medium. Claims 1, 2, 4 to 7, and 11 to 21
3are on appeal. The focus of my discussion today will be on claims 1, 11, 16
4and 21, as discussed in the appeal brief.

5 Regarding claim 1, claim 1 has been rejected as being anticipated by
6the Edgar reference. Focusing on claim 1, claim 1, among other things,
7recites a deciding device for selecting a correction method from -- or types
8of correction method for correcting a defect portion or for deciding a range
9of applications of each of at least two correction methods correcting a defect
10portion. The standard for anticipation is that a claim is anticipated only as
11each and every element as set forth in the claim is found either expressly or
12inherently described in a single prior art reference.

13 JUDGE THOMAS: In independent claim one, is it your position that
14both of those sub-functions of the deciding device must be present?

15 MS. WI: No. Only either one or the other.

16 JUDGE THOMAS: Either one?

17 MS. WI: Yes.

18 JUDGE THOMAS: So if we find that --

19 MS. WI: Or, or --

20 JUDGE THOMAS: -- a selection method is selected then the claim is
21anticipated.

22 MS. WI: Correct.

23 JUDGE THOMAS: Okay.

24 MS. WI: However, it is our position, it is the appellant's position that
25Edgar does not teach every element of claim 1, then Edgar does not disclose

1the claim's deciding device and Edgar does not disclose a selecting or
2correction method from among a variety of types of correction methods.

3 JUDGE THOMAS: So the red, green and -- the position the examiner
4gave like three different alternatives that Edgar meets and selecting between
5infrared and red, green or blue, that wouldn't be --

6 MS. WI: There was no correction --

7 JUDGE THOMAS: -- selection between correction method one, as to
8red, green and blue, which you can argue about whether all the different
9functions or different portions in figure 6, one goes to infrared, which is
10treated differently than the red, green and blue. Why wouldn't the difference
11between infrared --

12 MS. WI: I don't believe they are treated differently because the
13imperfection is in the same location. So they are all treated the same way in
14that --

15 JUDGE THOMAS: What does the location have to do with anything?

16 MS. WI: Because the purpose of Edgar is to correct imperfections.

17 JUDGE THOMAS: Right, but --

18 MS. WI: So the purpose of a correction --

19 JUDGE THOMAS: -- purpose of the location is that they all go to the
20same location, and --

21 MS. WI: Yes, but the imperfection is in the same location in each
22image, and therefore --

23 JUDGE THOMAS: So why is --

24 MS. WI: So therefore it is the same algorithm that is being applied in
25each image to correct the image imperfection. If you applied a different --

1and let me point out that they only disclose a failure in the algorithm, which
2believe is what they're associating with this interpolation.

3 JUDGE THOMAS: We're dealing with devices here in the claim. So
4what elements of the claim distinguish the examiner's position?

5 MS. WI: Because there is no deciding device.

6 JUDGE THOMAS: There is no deciding device entirely, at all?

7 MS. WI: Not that I am aware of because in our invention, there has
8already been a calculation performed. Once a calculation has been
9performed for its desired values, the deciding device then selects, based on
10these values, I am going to select the appropriate correction method. As
11opposed to Edgar, there is no -- there is not a deciding device that decides
12after all these corrections are performed, which method of correction was
13applied. In Edgar, it looks like based on a given situation this is what we
14will perform, which was the problem of the prior art that this, that our
15invention was trying to overcome, that a given situation does not necessarily
16require this type of treatment. You need to perform certain calculations, and
17based on these calculations, you can then select either one, or two, or
18several, you know, correction methods to correct the problem. So that was
19the problem with Edgar, is that in a given situation if the pixel were
20obscured, then you were going to perform, I believe, the extracting of
21adjacent pixels, which I believe was an interpolation, and in the event that
22does not occur, in which the image is not obscured, then you were going to
23perform this division. So there wasn't a selection being performed. It was
24given this situation, this is what was done. So referring back to the Edgar
25reference, as you indicated, there was infrared images that were obtained and
26Edgar discloses that a -- assuming that this is the interpretation among

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1several interpretations that the examiner gave -- what constitutes selection of
2-- what constitutes selection of the correction method from among a plurality
3of types of correction methods. It indicates that in operation 84 of figure 4
4of Edgar that an appropriate fill-in routine is executed by the system to
5replace the red, green and blue infrared pixels with corrective estimates.
6Edgar discloses that the fill-in routine to be used is well known in the art,
7and, of course, various techniques, such as examining values of adjacent
8pixels in order to extrapolate and estimate a value for an obscured pixel. But
9at no point does it mention how this fill-in algorithm is selected. So
10assuming that the fill-in algorithms are what you are associating with a
11correction method, at no point does it tell us how do you select -- you know,
12what, what, what decides and how is there a fill-in algorithm even selected.
13And so, so --

14 JUDGE THOMAS: So the primary argument is to clause B in claim 1
15then.

16 MS. WI: I'm sorry?

17 JUDGE THOMAS: The primary argument is to clause B in claim 1.

18 MS. WI: Correct.

19 JUDGE THOMAS: So, and I think you said earlier that you also
20argue that clause C is not present?

21 MS. WI: No. I only read clause B.

22 JUDGE THOMAS: Okay.

23 MS. WI: But I don't believe C is -- the focus of my discussion was
24clause B. Because seems to be the issue here with the board and with the
25examiner. Okay. So it's the application's position that claim 1 is not taught

1because there is no such deciding device and there is no selection from
2among a plurality, I mean a plurality of correction methods.

3 JUDGE THOMAS: The claim doesn't really regard a selection does
4it?

5 MS. WI: Well, it's the deciding device which selects. So it's the
6deciding device for selecting a correction method. So there is a selection, a
7selecting, based on a device. And I don't believe there was any issue with
8respect to the language of the claim and how it was to be interpreted. So it
9was interpreted in that way, based upon the reading of the application.

10 JUDGE THOMAS: Okay. Is the other independent claim, does it
11have corresponding limitations as to clause B?

12 MS. WI: Correct. Claims 13 and 18.

13 JUDGE THOMAS: That they are identical?

14 MS. WI: They are not identical, but there are similarities in the
15clauses in that there was no selecting from among a plurality.

16 JUDGE THOMAS: You said 14 and 18, I think, correct?

17 MS. WI: Thirteen and 18.

18 JUDGE THOMAS: Take a moment and make sure about that, please.

19 MS. WI: So claim 13 is directed to column B, selecting based on a
20defect portion of a correction method from among a plurality of correction
21methods. So that's column B of claim 13 and of claim -- is that the same
22claim you have?

23 JUDGE THOMAS: Yes.

24 MS. WI: Okay. And then claim 18 is based on a characteristic of the
25defect portions, selecting a correction method for correcting the defect
26portion from among a plurality of different types of correction methods. So

1they are both, both -- all three claims, 1, 13 and 18, are directed to selecting
2-- as claims 13 and 18 are directed to a method, they don't disclose the --
3they are not directed to a method.

4 JUDGE THOMAS: Okay. Thank you.

5 MS. WI: Going on now, with respect to claim, with respect to claim
611. Claim 11 recites an image processing device, specifically in element A
7of claim 11, a calculation device for calculating a brightness alteration
8amount for correcting a defect portion of an image based on an amount of
9transmitted or reflected non-visible light in an area adjacent to the defect
10portion. When light is radiated onto the image recording material and a
11difference in the reflectiveness of visible and non-visible light in the image
12recording device. So it's the appellant's position that Edgar does not teach
13every element of claim 11. Since Edgar does not disclose the claim
14calculation device, Edgar does not disclose brightness, alteration, and Edgar
15does not disclose calculating of brightness or alteration amount for
16calculating a defect portion in the image based on the amount of transmitted
17or reflected non-visible light, with emphasis in an area adjacent to the defect
18portion when light is radiated onto the image recording material. In
19rejecting claim 11, the examiner had cited Edgar, column 6, lines 59 and 68
20in support, and the aspect of Edgar cited by the examiner discloses that since
21the locations of imperfection are know because of the infrared images, the
22intensity in the areas of the imperfections can be increased. However, there
23is no teaching of a calculation device which calculates a brightness
24alternation amount. Specifically, Edgar discloses increasing intensities,
25which is not brightening. And assuming that there is some -- there is no
26teaching of a device which calculates the intensity to be applied. In addition,

1there is no teaching or suggestion that the intensity performed in Edgar -- the
2increase of intensities performed in Edgar is not based on an amount of
3transmitted or reflected non-visible light in any area adjacent to the defect
4portion when light is radiated onto the image recording material. Edgar
5discloses increasing intensity in the defect area, which was determined based
6on the infrared mass and not on areas adjacent to the defect portion.

7 JUDGE THOMAS: Can I go back to your discussion of claim 1, with
8respect to figure 4? Looking at column 12 of Edgar, line 26, it says, "As
9shown in Figure 4, the value of a given pixel in the infrared record at 122 is
10tested as shown in the threshold box 128 and found to be below a threshold
11of acceptable recovery. This signifies a particular pixel is obscured, thereby
12activating an appropriate interpolation or fill-in routine 126, instead of the
13defined functions to adjust the values for red, green and blue pixels in
14accordance with the values of the adjacent pixels, thereby resulting in a
15correct red, green or blue pixel value of 130 to 134." Why wouldn't that be
16two different methodologies by -- the question, the question comes down to
17what is actually, you know, required for a method, a correction method? If
18you change between there, they are saying you're going to change and take
19the divide-by function out and do an interpolation or a fill in.

20 MS. WI: Um-hum (affirmative).

21 JUDGE THOMAS: There are two paths. Why wouldn't that be --
22something is -- the threshold is making the decision which would be --

23 MS. WI: Correct.

24 JUDGE THOMAS: -- something in a box, a black box.

25 MS. WI: Um-hum (affirmative).

26

1 JUDGE THOMAS: So you have to paths to go to. It decides which
2one to go to. Why aren't those two different methods?

3 MS. WI: Okay, so claim 1 recites that it's a detecting device -- I'm
4sorry --

5 JUDGE THOMAS: And that the threshold detects if you meet the
6threshold and you go two paths --

7 MS. WI: So it's selecting from among a plurality of types of
8correction methods.

9 JUDGE THOMAS: So you've already got two. You can use the
10device function or you can go to the interpolation function.

11 MS. WI: But it's the appellant's position that this is not a selection.

12 JUDGE THOMAS: Why not?

13 MS. WI: Because, basically, given the situation, this is what Edgar
14would perform and given --

15 JUDGE THOMAS: So what about the selection? Is it defined? What
16would be your definition?

17 MS. WI: So, as I was discussing earlier, in the applicant's invention,
18it has already, it has already -- the applicant has already performed
19calculations by the time that --

20 JUDGE THOMAS: And where does it say that in the claim?

21 MS. WI: It's not in the claim.

22 JUDGE THOMAS: Okay.

23 MS. WI: But just to give --

24 JUDGE THOMAS: Okay.

25 MS. WI: -- background information as to why the claim reads in such
26a manner.

1 JUDGE THOMAS: Okay.

2 MS. WI: And so prior to being at the deciding device, it has already
3performed -- it is actually in the other independent claims -- it has already
4performed the calculations for all the values necessary. So Edgar has
5already performed all these values and calculations, it already knows the
6possibilities of whatever method it has to perform. So as a deciding device,
7the deciding device merely -- it selects one of the options based on the
8calculations that have been performed.

9 JUDGE THOMAS: Um-hum (affirmative).

10 MS. WI: And that's when it performs the selection.

11 JUDGE RUGGERIO: And I agree with you that you know, to the
12disclosed invention, but claim 1 doesn't say that.

13 MS. WI: Well --

14 JUDGE RUGGERIO: I mean Claim 1 is broad, it doesn't have any
15recited process and performance to detect the device in its structure, so we're
16not really getting into the underlying process, detecting device for detecting
17portions of an image represented by electronic information. We've got that.
18And then the question is deciding device for selecting it, and B, we don't
19have to have the alternative limitation. You stated that to begin with.

20 MS. WI: Um-hum (affirmative).

21 JUDGE RUGGERIO: So all we look at is the first two lines in
22deciding device for selecting a correction method from among the plurality
23of types of correction methods for correcting a defect portion. Here, that
24portion, to me, of Edgar, seems like there's two paths, and the threshold is
25the determining factor for the deciding device for that and then those two
26different processes, sub-processes, or methods, are methods. They may not

1be overall the same in scope that you intend yours to be with respect to the
2calculations, but we don't -- you don't -- as Judge Thomas was saying, you
3don't really have a selection or told how the selection is made, just that there
4is a selection. Here, there are, you know, the examiner has, you know, given
5a bunch of different alternatives to try to drive home that, you know, I've got
6two things being done and when you do one that's a selection. We don't say
7how the selection criteria are set up or what the selection is based upon, just
8that we have a selection for a correction method. We haven't defined what
9the correction methods are, haven't listed them out, you know, an
10interpolation, -- or whatever the third one was.

11 MS. WI: Right.

12 JUDGE RUGGIERO: Don't any of those, and we don't have to have
13the alternative, the adjustment of two methods, so and then doing the
14correction in Step C that we selected in Step B, and the examiner kept, you
15know, going on and on, but I think that to me --

16 MS. WI: But --

17 JUDGE RUGGIERO: -- personally, that seems like you have two
18different ways of doing it, and you can argue that, well they're not really
19methods, they're just a subpart of an overall method, but we haven't defined
20what a method, the methods, are, to give us some context for that scope of
21what that is. To me, I think, you know, I see two paths, and there is
22something that determines which path to go on.

23 MS. WI: I think it's a little more unclear than that because we've
24actually interviewed this case with the examiner also and --

25 JUDGE RUGGIERO: We don't have that before us.

26 MS. WI: I'm sorry. But I'm just saying that's part of this application.

1The examiner cannot focus on deciding device which would perform the
2selection. And so --

3 JUDGE THOMAS: Well, irrespective of what the examiner has told
4you in interviews and on paper, what do the records teach? Period.

5 MS. WI: Right, and it's the appellant's position that there is no
6teaching of a deciding device, and that there is no such deciding device that
7selects from among a plurality of correction methods. It's either given the
8situation, this is, this is the steps that are performed, and in this situation,
9these are the steps that are performed.

10 JUDGE THOMAS: So you are saying that trying to distinguish -- we
11have a black box which we call a deciding device, which is a separate and
12distinct entity from other parts of our processing system.

13 MS. WI: Okay.

14 JUDGE THOMAS: Correct? Is that what your position is?

15 MS. WI: No, I'm sorry, what?

16 JUDGE THOMAS: That you have a separate black box, which is
17your deciding device.

18 MS. WI: Correct.

19 JUDGE THOMAS: Separate from the rest of the image processing
20system.

21 MS. WI: Device, yes.

22 JUDGE THOMAS: Right, which then Edgar doesn't have a separate
23and distinct black box which you can throw a label on that is a deciding
24device.

25 MS. WI: Correct.

26

1 JUDGE THOMAS: But why wouldn't the combination of the
2threshold circuit, you know, in figure 6, working with the other processing
3circuit there, circuitry, the threshold and interpolate function, why wouldn't
4that be inside something that has to decide you're over the threshold,
5whatever that threshold is
6and --

7 MS. WI: Yes, but --

8 JUDGE THOMAS: -- then to make that determination.

9 MS. WI: -- that's speculating, and if you look at the --

10 JUDGE THOMAS: No, not speculating. If something is doing it, and
11apparently it says that you go to paths, you look at the threshold, something
12has to do that. It may not be shown in the drawing in the box, but there is a
13device, a singular command in some processing, which you could put a box
14around that is, that performs that functionality.

15 MS. WI: Sure, but this is, this is anticipation rejection.

16 JUDGE THOMAS: Sure.

17 MS. WI: This is not an obviousness rejection.

18 JUDGE THOMAS: I said it has to be there, inherently it has to be
19there, because it does that function.

20 MS. WI: But --

21 JUDGE THOMAS: So it has to be there.

22 MS. WI: But not necessarily --

23 JUDGE THOMAS: You can put a box around it
24and --

25

1 MS. WI: If you just put a box there it does not necessarily have to be
2a protecting device, a deciding device and a separate correction device
3within the image device of Edgar.

4 JUDGE THOMAS: How do they get the image? They have to detect
5the image. Detecting device for detecting defects portions --

6 MS. WI: Sure, but --

7 JUDGE THOMAS: Listen, I don't, I don't think we need to argue the
8details of the referencing more than we already have here at this setting.
9Let's must move on, all right?

10 MS. WI: Okay.

11 JUDGE THOMAS: Onto the other claims areas.

12 MS. WI: Okay.

13 JUDGE THOMAS: Time is really on here.

14 MS. WI: Okay. So going on to claim 11, back to claim 11, so it was
15my position that there was no calculation device, the brightness alteration,
16and all with respect to the language regarding in an area that you sense the
17defect portion and, again, that was because Edgar was not directed to
18brightness alteration. It was directed to intensity correction, and there was
19no indication that areas adjacent to a defect portion were taken into account
20during the increase in intensity. The increase in intensity was only
21performed on the defect area based on what was mapped of the infrared
22image. And now I'm going to claim 21. Claim 21 recites where one of the
23plurality correction methods comprised of -- method in which image
24information is corrected by reducing high frequency components with spatial
25frequency of a defect portion in an area adjacent to the defect portion. It's
26the appellant's position that Edgar does not teach every element of claim 21,

1since Edgar does not disclose any method. So the examiner tried various
2aspects of Edgar for teaching this claim. The -- method, specifically the
3examiner cited column 9, lines 53 to 57, and that had just discovered
4absorption of dies, the sensitivity of image capture sensors. The examiner
5also cited column 10, lines 55 to 57, which discussed charge coupled device
6sensors, and the examiner also cited column 14, line 37 to 45, and which had
7discussed the benefits of mapping the image in the infrared. So it's the
8appellant's position that there is no disclosure of -- and Edgar. Moving on to
9independent claim 16. Claim 16 was rejected as being anticipated by the
10Hiromatsu reference and it's the appellant's position that claims 16 and 19 --
11are similar to claim 8, which has been deemed allowable, so it is the
12appellant's position that claims 16 and 19 should be allowable for the same
13reason.

14 JUDGE THOMAS: But they're not the same scope.

15 MS. WI: Sure.

16 JUDGE THOMAS: That's what -- said.

17 MS. WI: Okay.

18 JUDGE THOMAS: So what's the substance of the difference
19between prior art? You haven't set forth anything.

20 MS. WI: Okay. So moving on to claim 16, claim 16 recites
21calculating image feature amounts for defect portions and image represented
22by electronic information along ultra-plurality of different directions running
23from within each portion. So, again, this reverts back to, I guess, our earlier
24discussion about calculations. So it is performing this calculation among the
25polarity different directions running from within the defect portion. So it's
26the appellant's position that Hiromatsu does not teach every element of page

1 16 because Hiromatsu does not disclose the image feature amounts for a
2 defect portion, an image represented by electronic information, along a
3 plurality of different directions running within each defect portion.

4 JUDGE THOMAS: So you would say that substituting the data for
5 the defective data, in columns 29 and 30 is not a calculation?

6 MS. WI: Correct. I believe that's just performing interpolation. I
7 don't believe that --

8 JUDGE THOMAS: But interpolation isn't a calculation?

9 MS. WI: Sure.

10 JUDGE THOMAS: Last time I check that was.

11 MS. WI: Sure, yes. So interpolation is a calculation, but in page 16,
12 column A -- I mean page 16, column B, discusses the interpolation aspect,
13 and page 16, column A, describes the calculation of feature -- of a polarity
14 of different directions running from the defect portion. So it's a calculation
15 performed prior to any such interpolation, and then column B discusses
16 calculating correctional values for correcting the defect portion by
17 interpolation from information through areas. So maybe, perhaps, your
18 assertion of the interpolation and your loss corresponds to that second
19 column, column B, but there is no calculating in the column A of image
20 features not along the different directions running from the defect portion.
21 And I believe that is all.

22 JUDGE THOMAS: Okay.

23 MS. WI: Do you have any questions?

24 JUDGE THOMAS: Any questions from the panel? No? Thank you.

25 MS. WI: Thank you.

26 (Whereupon, the proceedings concluded.)